

**USING THE FOOD BUYING GUIDE (BUYGD)
AND FOOD BUYING GUIDE LINK (BUYGDLNK) FILES
(Prepared 4/95)**

**GUIDANCE FOR DEVELOPMENT OF SOFTWARE UTILIZING THE
NND-CNP**

INTRODUCTION

Two of the files included in the NND-CNP are not directly involved in nutrient analysis, but provide supporting information for a school food service software system and **MUST** be incorporated into the system in order to provide users with the complete National Nutrient Database for CNP. The BUYGD file provides information on the yield of ready-to-serve, ready-to-cook, cooked or otherwise prepared food (i.e., drained) that will be obtained from a specific market unit of food as purchased (i.e., #10 can, lb raw w/refuse, etc). The BUYGDLNK file links CNP food codes to information in the BUYGD file.

The source of the data in the BUYGD file is USDA/FCS Program Aid Number 1331: Food Buying Guide for Child Nutrition Programs.

For Release 1 of the NND-CNP, most data was entered into the BUYGD file exactly as printed in Column 6: "Additional yield information". Some data were calculated from the printed information in Column 4: "Serving size or portion" and in Column 3: "Servings per purchase unit". The product of SERVING SIZE multiplied by NUMBER OF SERVINGS was then rounded to two decimal places for entry into the EP AMOUNT field in the BUYGD file.

The BUYGDLNK file identifies for each CNP food code the Food Buying Guide code(s) which will provide some information about the draining and/or cooking yield, edible portion, etc, for the food. This link is not a direct mathematical expression (that the software could use in calculations), but is an informational link that the user can refer to instead of the printed Food Buying Guide for CNP.

Important Notes: One CNP food code may be linked to more than one buying guide codes and more than one CNP food codes may be linked to the same buying guide code(s). Numerous CNP codes have no link to the BUYGD file. Some items in the Buying Guide file (BUYGD) are not linked to any CNP code.

DATA FIELDS IN THE BUYGD FILE (See Sample File Listing for BUYGD file as released with CN1.)

FOOD GROUP CODE organizes the BUYGD file into the same food groups/categories as the FDES file of CNP codes, although the printed Food Buying Guide for CNP (Program Aid #1331) is organized into only 5 groups: 1. Meat/Meat Alternates, 2. Vegetables/Fruits, 3. Bread/Bread Alternates, 4. Milk and 5. Other Foods.

The **FOOD GROUP CODE** is not an essential piece of information for successful use of the BUYGD file; it simply serves to organize the data. It may sometimes, but not always, provides direction for information about similar foods for an un-linked CNP food or a locally entered food that does not have an established link in the BUYDLNK file.

The **FOOD DESCRIPTION** is the description of the food in the form as it is purchased, taken directly from Column 1: “Food as purchased” in the printed Food Buying Guide for CNP.

MARKET CODE, the field name used in Release 1 of the NND-CNP, is a unique code number representing an item in the Buying Guide file. In Release 2 of the NND-CNP, the field has been re-named to **BUYING GUIDE CODE** of clarify the meaning of the code. It is not a code number assigned by the manufacturer; buying guide code numbers were randomly assigned to items in the printed version of the Food Buying Guide for CNP. The number assignments were not systematic; the number has no meaning beyond being a unique identifier for a food item in the BUYGD file.

SEQUENCE NUMBER identifies a unique line of buying guide data for a specific food. For example, Market code #345: Milk, dry. Whole (regular) has two lines of Buying Guide data

1. the volume measure of a lb of dry milk (1 lb AP = 3.5 cups of dry milk)
2. The amount of reconstituted milk that could be made from a lb of dry milk (1 lb dry milk AP yields 14.20 cups of reconstituted milk).

Some BUYGD foods have only one piece of data; some have numerous lines of data depending on the combination of different units of purchase, different methods of preparation, and different measurement units for the edible portion (EP) yield. For example: some canned fruits and vegetables have 10 or more lines of data due to various can sizes (purchase unit), whether the food is drained or not (preparation) description) and whether the amount of food is reported in weight or volume units (EP measure).

PURCHASE UNIT is the packaging size or market unit in which the food may be purchased. Examples of purchase unit are: lb, specific can size (No. 10, No. 303, etc.), volume (like quart or gallon), and count (like each or dozen).

The **PREPARATION DESCRIPTION** states the processing that has been done to the food from its purchased state to prepare it for cooking or service. Examples of preparation descriptions are:

Canned fruits – drained
and chicken breast, raw, AP – cooked, wo/skin (boneless) (with bone and skin)

EDIBLE PORTION AMOUNT is the numerical part of the yield expression. It is the quantity of a specific measure of the food that will be obtained from the specific purchase unit. For example, 1 quart of Heavy Cream (market code #341) yields 128 (edible portion amount) tablespoons of whipped cream.

EDIBLE PORTION MEASURE identifies the volume or weight measure of the ready –to-cook or ready-to serve food. For example, 1 lb AP of American cheese (market code #418) makes 4.00 cups (edible portion measure) of shredded cheese.

SAMPLE BUYING GUIDE INFORMATION

The Sample Listing for “CN1-BUYGD Data Condensed” displays the data for representative types of items in the Buying Guide file. Page 5 lists the information for four different market cuts/prices of cooked yield of meat, with and without skin, from 1 lb raw AP. Page 34 lists sample fruit data. The data for dehydrated Prunes, without pits (#216) states that 1 lb AP equals 2.67 cups of dry prunes or 64 medium dry prunes, or will yield 3.68 cups of cooked fruit and juice. The data for Canned Prunes (#214) states that a #10 can (108 oz) will yield 57 oz or 7.13 cups of drained, pitted fruit.

DATA FIELDS IN THE BUYGDLNK FILE (See Sample File Listing for BUYGDLNK file.)

CNP CODE identifies a CNP food from the FDES file.

MARKET CODE (BUYING GUIDE CODE) represents the Buying Guide food to which the CNP food is linked, i.e. the code in the buying Guide file where purchase and yield information about this CNP food will be found.

MULTIPLE LINKS: As noted in the INTRODUCTION, the relationship between CNP food codes and Buying Guide codes varies; a CNP food may have none, one or multiple BUYGD links. The BUYGDLNK file lists only the CNP codes for which one or more BUYGD link(s) has been identified.

There are numerous CNP codes that have multiple Buying Guide links, where more than one Buying Guide code is linked to a CNP code through the BUYGDLNK file. One example of this is CNP code #8121 which is linked to three codes (#305, #306 and #307) in the Buying Guide file. Another example of this situation is CNP code #5065 which is linked to four codes in the Buying Guide file (#421, #422, #423, and #424).

A software system must allow multiple links between a CNP code and the Buying Guide file, and must display the user all of the data for all Buying Guide links for each CNP code.

LINKED DATA FROM FDES AND BUYGD FILES

The Sample Listing of “Linked Data from the FDES and Buying files” simply provides the text descriptions for each code in the BUYGDLNK file from the appropriate description file. This list also illustrates the various relations between CNP and BUYGD codes.

One CNP-to-one BUYGD: #1017 -to- #342 (Page 1)

One CNP-to-multiple BUYGD: #5012 -to- #430 and #544 (Pg 6)

Multiple CNP-to-one BUYGD: #5008, #5009, #5010, #5011 and
Others -to- #430 (Page 6)

ACCESS TO BUYING GUIDE INFORMATION

The Buying Guide information becomes relevant to the user during recipe entry and the determination of ingredient amounts. Ideally, the buying guide information should be directly accessible at the ingredient entry screen for the recipe creation/edit function. The information could be made easily accessible by a “hot key” which would bring up a “pop-up” display region so that the user can quickly view the buying guide information without exiting the recipe entry screen.

Also, the viewing of the data should be “user-friendly” with the ability to move not only forward but also backward through the data records/screens in order to review previous information.

It would be minimally acceptable to the software evaluation team if all of the buying guide information and the links between CNP codes and Buying Guide/Market codes were complete, even though the information were only accessible from the ingredient editor screen. This organization would require much manual work from users (exiting from recipe creation to go into the ingredient editor, writing down the relevant information then returning to complete the recipe). User requests and market pressures would probably soon convince vendors to improve their program.

DATA INTERPRETATION

When the Food Buying Guide Files (BUYGD and BUYGDLNK) are incorporated into the software, care must be taken to express the data clearly. For example, the Sequence #3 data line for PRUNES, DEHYDRATED, WITHOUT PITS (#216) should be interpreted as

“1 lb of dry prunes (the as purchased from and unit) will yield 3.68 (EP amount) cups (EP measure unit) of cooked fruit and juice (preparation description)”,

NOT

“1 LB (cooked fruit and juice) = 3.68 cup” which would imply that “1 lb of cooked fruit and juice has a volume measure of 3.68 cup” (incorrect).

The key concept is that the purchase unit will yield a certain amount of food, when prepared in a certain way.

FOOD INCLUDES AND BUYING GUIDE LINKS

The “Include” foods should not be automatically linked to the same food Buying Guide information as the CNP food codes to which the Include food is linked for nutrient values and measure-weight data. The Buying Guide information for the linked CNP food is sometimes, but not always, appropriate for the “Include” food. In future, the USDA may link specific “Include” foods to the Food Buying Guide but currently the relationships have not been evaluated. For now, the “Include” foods would fall under the category of “No Buying Guide Information”.

USER ENTRY OF BUYING GUIDE-TYPE INFORMATION

When entering a local food item, the user may want to assign an existing Buying Guide code to that food ID code. Or, the user may want to enter their own purchasing and yield information for CNP foods. Either situation represents editing of the USDA data files. This would be acceptable only if the usual “locking” rules are followed. The source of all data must be stated (“USDA” vs. “local”) and the user should be unable to change or delete data with the source of “USDA”. If the user is allowed access to the Buying Guide and Buying Guide Link files when entering local foods, a look-up function must be provided to equate Buying Guide code numbers with Buying Guide food descriptions.

USER MANUAL COVERAGE OF ON-LINE FOOD BUYING GUIDE

The user manual should include a discussion about the on-line Food Buying Guide. It should be a separate topic listed in the Table of Contents and Index. The documentation should include a simple description of the information in the Buying Guide files (BUYGD and BUYGDLNK) as well as instructions as to HOW users can refer to it to determine amounts of ingredients for recipe coding and entry. We cannot assume that school food service personnel already know how to use this reference. They may be very familiar with the printed version of the Food Buying guide, but the on-line version is organized differently.

FUTURE CHANGES TO BUYING GUIDE FILES

Release 2 of the NND-CNP will include more information from the printed Food Buying Guide for CNP. This will be data calculated from the printed manual, as described in the second paragraph of the INTRODUCTION to this Guidance Supplement. Future releases of the database may include additional yield data from other sources.

Data fields added to both of these files include DATE ADDED, LAST MODIFIED, and STATUS. These will identify to the software developer the data which has been added, changed or discontinued since the previous release of the database.

Notes added 2/24/2005:

1. Date on two sample file listings was corrected to read “1/31/94” (from “1/41/94”).
2. The Food Buying Guide for Child Nutrition Programs (Program Aid #1331) was updated in November 2001. The BUYGD and BUYGDLNK files were updated with the revised information from the Food Buying Guide for CNP in Release 8 of the Child Nutrition Database (CN8).

Sample File Listing

Printed: 4/11/95
Data as of 1/31/94

BUYGD FILE AS RELEASED WITH CN1 (Buygd.r1, total records = 943)

Page 1

Food Group Code	Food description (from Buying Guide)	Market code	Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	Cheese, american, cheddar, mozzarella or swiss (natural or process)	418	1	lb	shredded	4.00	cup
1	Cheese, cottage or ricotta	419	1	lb		2.00	cup
1	Cheese, parmesan or romano	420	1	lb	grated	5.67	cup
1	Cream cheese	342	1	lb	1 serving = 2 tb Cheese	15.60	serving
1	Cream, heavy (whipping)	341	1	quart	whipped (volume doubled)	128.00	tblsp
1	Cream, heavy (whipping)	341	2	pint	whipped (volume doubled)	64.00	tblsp
1	Eggs, whole, dried	440	1	lb		5.33	cup
1	Eggs, whole, frozen	442	1	lb		1.88	cup
1	Milk, dry, nonfat, instant	346	1	lb	dry	6.60	cup
1	Milk, dry, nonfat, instant	346	2	lb	reconstituted	20.00	cup

1	Milk, dry, nonfat, non-instant, USDA-donated (special purchase)	347	1	lb	dry	3.70	cup
1	Milk, dry, nonfat, non instant, USDA-donated (special purchase)	347	2	lb	reconstituted	20.00	cup
1	Milk, dry, whole (regular)	345	1	lb	dry	3.50	cup
1	Milk, dry, whole (regular)	345	2	lb	reconstituted	14.20	cup
1	Milk, evaporated	348	1	no. 10 can (97 fl oz)	undiluted	12.00	cup

Sample File Listing

Printed: 4/11/95
Data as of 1/31/94

CN1-BUYGD DATA CONDENSED
(Buygd.r2, total records = 943)

Page 5

Market code: 421

Food description: Chicken, frying, breast halves with ribs (6.1 oz each), market style

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	cooked, with skin	.66	lb
2	lb	cooked, without skin	.56	lb
3	lb	1 breast half (about 4.0 oz cooked)	2.60	servings

Market code: 423

Food description: Chicken, frying, breast portions with back (5.9 oz each) from USDA-
donated (special purchase) 9 piece cut

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	cooked, with skin	.48	lb
2	lb	cooked, without skin	.40	lb
3	lb	1 breast portion with back (about 2.8 oz cooked)	2.70	servings

Market code: 424

Food description: Chicken frying, breast portions without backs (3.9 oz each) from
USDA-donated (special purchase) 9 piece cut

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	cooked, with skin	.64	lb
2	lb	cooked, without skin	.52	lb
3	lb	1 breast portion without Back (about 2.4 oz cooked)	4.10	servings

Market code: 425

Food description: Chicken, frying, drumsticks (3.7 oz each)

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	cooked, with skin	.49	lb
2	lb	cooked, without skin	.41	lb
3	lb	1 drumstick (about 1.8 oz cooked)	4.30	servings

Sample File Listing

Printed: 4/11/95
Data as of 1/31/94

CN1-BUYGD DATA CONDENSED
(Buygd.r2, total records = 943)

Page 34

Market code: 216

Food description: Prunes, dehydrated, regular moisture, without pits, USDA donated
(special purchase)

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	dry	2.67	cup
2	lb	medium prunes, dry	64.00	prunes
3	lb	cooked fruit and juice	3.68	cup

Market code: 214

Food description: Prunes, dry, canned, market pack

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	no. 10 can (108 oz)	drained, pitted	57.00	oz
2	no. 10 can (108 oz)	drained, pitted	7.13	cup
3	25 oz glass jar	drained, pitted	13.20	oz
4	25 oz glass jar	drained, pitted	1.67	cup

Market code: 220

Food description: Raisins, dehydrated, regular moisture, seedless

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	lb	dry	3.13	cup
2	package (1.3 oz to 1.5 oz)	dry	.25	cup
3	lb	cooked fruit	5.35	cup

Market code: 222

Food description: Raspberries, canned (red)

Sequence #	Purchase unit	Preparation description	EP amount	EP measure
1	no. 10 can (103 oz)	drained	53.00	oz
2	no. 303 can (16 oz)	drained	8.25	oz

Sample File Listing

Printed: 4/11/95
Data as of 1/31/94

BUYGDLNK FILE AS RELEASED WITH CN1
(Buygdlnk.r1, total records = 944)

Page 1

CNP code	Market code
-----	-----
1001	333
1009	418
1012	419
1015	419
1016	419
1017	342
1026	418
1027	418
1028	418
1029	418
1036	419
1037	419
1040	418
1042	418
1044	418
1053	341
1090	345
1091	347
1092	346
1096	348
1097	348
1123	442
1130	442
1132	442
1133	440
1145	333
1147	418
1148	418
1153	348
1154	347
1155	346
1170	440
2029	365
4065	333
4067	333
4068	333
4071	333
4073	333
4074	333

4075	333
4076	333
4077	333
4078	333
4079	333
4080	333
4081	333
4082	333
4083	333

Sample File Listing

Printed: 4/11/95
Data as of 1/31/94

LINKED DATA FROM CN1 – FDES + BUYGD FILES
(Lnk-wdes.r1, total records = 944)

P. 1

CNP code -----	Long CNP description -----	Market code -----	Food description (from Food Buying Guide) -----
1001	Butter; w/salt	333	Butter, margarine
1009	Cheese; cheddar, american	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1012	Cheese; cottage, creamed, large or small curd	419	Cheese, cottage or ricotta
1015	Cheese; cottage, low fat, 2% fat	419	Cheese, cottage or ricotta
1016	Cheese; cottage, low fat, 1% fat	419	Cheese, cottage or ricotta
1017	Cheese; cream	342	Cream cheese
1026	Cheese; mozzarella, whole milk	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1027	Cheese; mozzarella, whole milk, low moisture	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1028	Cheese; mozzarella, part skim milk	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1029	Cheese; mozzarella, part skim milk, low moisture	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1036	Cheese; ricotta, whole milk	419	Cheese, cottage or ricotta
1037	Cheese; ricotta, part skim milk	419	Cheese, cottage or ricotta

1040	Cheese; swiss, domestic	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1042	Cheese; pasteurized processed, american, w/disodium phosphate	418	Cheese, american, cheddar, mozzarella or swiss (natural or process)
1043	Cheese; pasteurized processed, swiss, w/disodium	418	Cheese, american, cheddar mozzarella or swiss (natural

Sample File Listing

Printed: 4/11/95 LINKED DATA FROM CN1 – FDES + BUYGD FILES P. 6
Data as of 1/31/94 (Lnk-wdes.r1 total records = 944)

CNP code -----	Long CNP description ----- (hydrogenated) & sunflower	Market code -----	Food description (from Food Buying Guide) -----
4525	Margarine; soft, sunflower & Cottonseed (hydrogenated) & Peanut (hydrogenated)	333	Butter, margarine
5006	Chicken; light and dark meat & skin, raw	430	Chicken, frying, whole with neck and giblets
5007	Chicken; light and dark meat & skin, cooked, fried, batter	430	Chicken, frying, whole with neck and giblets
5008	Chicken; light and dark meat & skin, cooked, fried, flour	430	Chicken, frying, whole with neck and giblets
5009	Chicken; light and dark meat & skin, cooked, baked	430	Chicken, frying, whole with neck and giblets
5010	Chicken; light and dark meat & skin, cooked, boiled	430	Chicken, frying, whole with neck and giblets
5011	Chicken; light and dark meat only, raw	430	Chicken, frying, whole with neck and giblets
5012	Chicken; light and dark meat only, cooked, fried	430	Chicken, frying, whole with neck and giblets
5012	Chicken; light and dark meat only, cooked, fried	544	Chicken meat, diced, cooked (no skin, wing or neck meat, giblets or kidneys), usda-donated (special purchase)
5013	Chicken; light and dark meat only, baked	430	Chicken, frying, whole with neck and giblets
5013	Chicken; light and bark meat only, baked	544	Chicken meat, diced, cooked (no skin, wing or neck meat, giblets or kidneys), usda-donated (special purchase)

5014	Chicken; light and dark meat only, boiled	430	Chicken, frying, whole with neck and giblets
5014	Chicken; light and dark meat only, boiled	544	Chicken meat, diced, cooked (no skin, wing or neck meat, giblets or kidneys), usda-donated (special purchase)
5057	Chicken; breast, meat & skin, raw	421	Chicken, frying, breast halves with ribs (6.1 oz each), market style

Note: This document was originally distributed as part of a packet of seven guidance documents for software developers. The original was dated May 17, 1995 and signed by Ron Vogel. A copy of the original packet is included in the packet of materials sent to new software developers. The letter and packet are available upon request. This Word document was created on February 25, 2005.